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ABSTRACT

This report explores the current role of portable classrooms in California schools and the options available for their use. It examines how widespread portables are, and estimates that more than 86,500 were in use in 1997-1998, a significant increase over previous years, which is partly attributable to the state's classroom reduction plan in grades K-3. The different types of portables being used vary widely, but all of the models must be approved either by the Department of State Architect (DSA) or built under the regulations of the Department of Housing. The construction process for DSA portables is described, along with the practice called "piggybacking," in which several school districts purchase portables together. Some of the issues related to the use of portables include abuses of DSA regulations, elevated maintenance costs, and proper maintenance. Outlines some considerations of the role that portables should play in the increased need for classroom space. Also presents a chart that compares permanent constructions with portable classrooms. (RJM)

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EdSource
Clarifying Complex Education Issues

Portable School Buildings

Scourge, Saving Grace, or Just Part of the Solution?

Portable classrooms provide flexibility needed by many school districts to meet changing demands for facilities. But with the use of these buildings on the rise, so are questions about their safety, durability, and long-term financial impact on California schools.

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No one can predict with absolute certainty how many children will attend California public schools 10 years from now or what facilities the state will need. And population swings in individual communities are even more dramatic and less predictable than in the state as a whole.

That uncertainty alone makes portable classrooms an important part of the mix for school facility planners. In addition, portables offer other equally important advantages. Generally speaking, they can be put into place faster than permanent buildings, allowing school districts to respond more easily to rapidly changing or unexpected needs. They are also usually less expensive to put into place, sometimes considerably so.

On the other hand, how do portables compare in quality with permanent construction? Is the use of portables penny wise and pound foolish? And how has the recent demand caused by California's Class Size Reduction Program (CSR) affected the cost and supply?

This EdFact explores the current use of portable classrooms in California schools and the options available. It also examines the practical, financial, and political issues related to their use.

How Widespread is the Use of Portables?

The great majority of schools in California use at least some portable classrooms, but no one knows precisely how many. For one thing, no state agency keeps an official statewide count. In addition, districts have been purchasing and/or leasing portables as they needed them since the 1950s.

After completing a survey of portables, the California Auditor General (AG) estimated that 48,000 such units were in use in 1991, 43,000 of them as classrooms. The AG further estimated that 72% of all California school sites had portables. These classrooms housed about 1.2 million students, 27% of the state's total public school enrollment at that time.

Based on a review of data collected by a variety of organizations, EdSource estimates that over 86,500 portable school buildings were in use in 1997-98. At an average of 25 students per classroom, that means over 2 million California students attend school in portables. That is an increase of 38,500 units, or nearly 80%, in just seven years. Nearly one-third of this increase can be reasonably attributed to California's implementation of CSR in grades K-3. The latter represents about 13% of all portables now in use in the state, or about 11,500 classrooms.

What Kind of Portable Structures are Being Used?

State experts say the terms portable or relocatable now cover such a wide variety of structure types that it is almost impossible to describe a "typical" portable. From a regulatory standpoint, however, portable school buildings fit into one of two categories:

- DSA portables are approved by the Department of State Architect (DSA) for permanent school use, are built to meet the standards of California's Field Act (see box), and may be either purchased or leased. These represent the vast majority of school portables.
- DOH portables are built under the regulations of the State Department of Housing (DOH) to meet the slightly less stringent Uniform Building Code (UBC); now may

ABOUT THE FIELD ACT

California's Field Act was passed in 1933 after a strong earthquake destroyed school buildings in Southern California. It gives the state the authority to determine structural safety standards, review plans, and oversee the construction process for public school buildings. Field Act structural standards are somewhat more exacting than those of the Uniform Building Code (UBC), and the inspection requirements are more rigorous during both manufacture and installation of portables.

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(Editor's Note: For the purposes of this report the term "portable" refers to all types of manufactured, relocatable school buildings.)

only be leased by schools; and if in use before October 1997 must be retrofitted for earthquake safety to qualify for continued use until 2007. (Some additional legal exceptions apply. DOH units are a small proportion of the total number of portables.)

Portable buildings — particularly those that fall under the DSA approval process — come in all shapes and sizes. Certainly many fit the classic image of a single, modular classroom. But most manufacturers will also provide specialized units for restrooms and science labs; and even bolt together multi-unit complexes for cafeterias or multi-purpose rooms. Multi-story portables provide an especially attractive option in urban areas where land is scarce. The limit on building size is dictated more by what can be transported down the highways between the manufacturing plant and the school site and less on the construction technology available, according to one building manufacturer.

HOW THE "CONSTRUCTION" OF DOH UNITS DIFFERS FROM DSA

DOH units are built to the standards of the Uniform Building Code. They serve a much larger market than just schools and the unit designs tend to be more standardized.

The Department of Housing requires in-plant inspections by DOH-licensed and DOH-paid inspectors. The fees for these inspections are collected from the manufacturers.

DOH units — because they are almost exclusively under lease and often used for a short-term need — are routinely returned to leasing agents and re-rented to other users.

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Class Size Reduction Increased the Demand for Portables

To provide nearly 28,000 additional K-3 classroom spaces quickly to implement CSR in 1996 to 1998, public schools depended heavily on the use of portable classrooms. This created shortages and some short-term increases in prices. Some school district officials reported increases of as much as 20% when they purchased from dealers, but said prices were beginning to fall again by January 1998. Portable prices tend to vary by region and manufacturer as well.

Many observers characterize CSR's long-term impact on the market as more substantive and far-reaching. By all accounts, CSR soaked up all the excess facility capacity most districts had, at least at the elementary level. Schools still have to meet continuing growth in student population and that means the on-going demand for portables has increased and will remain strong.

The "Construction" Process for DSA-Certified Classrooms

At each step from the decision to purchase a DSA-certified portable classroom to opening the doors to students, school districts come in contact with the Department of State Architect (DSA). The DSA is charged with assuring compliance with California's Field Act standards for structural safety.

A project begins with the submission of plans to the DSA by the school district, in concert with an architect and/or a building manufacturer. Upon approval, the manufacturer begins work. Throughout the building process, DSA-licensed in-plant inspectors check the work. DSA architects also make unannounced inspections periodically. Local school districts pay for the cost of plan checking and all inspections.

When the building is completed it is transported to the site and installed. School districts usually contract with local firms or use their in-house construction crews to prepare the foundation, place the unit, and hook up water and utilities. Again, DSA-licensed inspectors are on the scene.

Thirteen companies — all of which are based in California — manufacture almost all of the portables used in the state. All but two of these firms belong to the School Facilities Manufacturers Association (SFMA) and all manufacture their units within the state.

"Piggy-back" Purchases Streamline Process

In an attempt to reduce the time it takes to get portable classrooms — and keep costs as low as possible — many school districts use a purchasing process commonly referred to as "piggy-backing." In effect, a local school district governing board can vote to participate in another district's established agreement with a manufacturer. The original order is increased by the number of units the second district needs. Often, several districts will piggy-back on a single order. Doing so alleviates the need for each district to develop its own specifications, a particular attraction to small districts with limited administrative capac-

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HOW PERMANENT CONSTRUCTION AND PORTABLE CLASSROOMS COMPARE

	PERMANENT CONSTRUCTION	DSA-APPROVED PORTABLES	DOH PORTABLES
LEGAL LIMITS ON USE	Can be no more than 70% of classrooms on-site if school wants to participate in State Lease/Purchase program. 30% must be portables.	None. Can be regarded as an alternative to permanent construction.	Normal use to meet temporary need (up to 18 mos.) during construction or reconstruction. Can now only be leased, not purchased. Those already in use before Oct. 1997 may be used as school buildings until 2007 if retrofitted to qualify for Field Act waiver.
COST FOR AVERAGE CLASSROOM** 960 sq. ft., with water, air conditioning, and modern wiring	$115,000- $177,000 Includes design & construction. (Based on 1998 estimates of $120 to $185 per square foot. Varies with design, local labor rates, etc.)	$35,000 to $100,000 total purchase and installation Portable: $40,000 - $55,000 typical mid-range, depends on amenities. (As low as $26,500) (Annual lease: approx. $7,000) Installation: From less than $10,000 to $18,000 or more for wood or concrete foundation.	$40,000 to $60,000 for use from 1997 to 2007, based on annual lease rates from $4,000 to $6,000 (shorter term leases are higher). Installation: About $8,000 (includes $3,600 for retrofit for Field Act compliance, plus standard set-up costs. Does not include DSA-approved ramps).
CONFORMITY TO CODE	Conforms to Field Act.	Conforms to Field Act.	Conforms to Uniform Building Code (must be retrofitted to obtain Field Act waiver).
TIME TO CONSTRUCT OR TO ORDER & INSTALL	Construction: Minimum approx. 1 year for design, DSA plan approval, and construction. Typically, schools do not build single classrooms, and more extensive projects can take 3 years or more.	Order and install: Minimum approx. 1 month for DSA approval, up to 2 months for manufacture, delivery, and installation.	Order and install: 2 days minimum and 2 weeks maximum for ordering, delivery, and installation. Retrofit takes up to 2 weeks.
LIFE SPAN	Indefinite. Depends on quality of construction and on-going maintenance.	Can be used for permanent housing. Life span can be 20 to 40 years, depending on age and quality of unit, type of foundation, and the number of times it is moved.	Generally used for temporary purposes. Life span can be 20 years, depending on age and quality of unit, and number of times it is moved.

** Average cost estimates vary widely. The ranges shown here are meant to provide a sense of the relative costs, with the caveat that suppliers, building specifications, local labor rates, site requirements, construction techniques, and economic conditions can all affect the actual prices school districts pay for facilities.

ity. From the manufacturers' point of view, the process cuts down on paperwork and guarantees them a broader market for a specific unit they tool up to manufacture.

Piggy-backing has become so common that both school districts and manufacturers often plan for it. Bids routinely extend for 12 to 18 months and cover a wide menu of possible products. Some bids are even prepared with a printout of the entire state school directory appended so that any district in the state could decide to piggy-back on that bid if it wished.

"Student enrollment growth has been unrelenting, state bond funds for permanent facilities have been scarce, and K-3 class size reduction has increased the need for portables."

Old Portables Almost Never Die

When portables are no longer needed by a school district they can, in theory, be sold back to a manufacturer, reconditioned, and sold or leased to another school district, presumably at a lower price. In today's climate, however, that is a fairly rare occurrence. Some district-to-district sales have been done in the past, but the more normal route is through the manufacturer. Both school district and manufacturer representatives say that a lively demand for used DSA units goes largely unsatisfied because of an extremely limited supply.

In the last decade, few if any districts have been in a position to decommission their DSA portables, although they do move them around within the district. Student enrollment growth has been unrelenting, state bond funds for permanent facilities have been scarce, and K-3 class size reduction has increased the need for portables. Prior to the advent of the CSR program in 1996-97, districts had some DSA portables that were dedicated to lower priority uses and probably could have been sold. With the challenges of CSR implementation fresh in district officials' minds, they may be less willing than ever to sell their used DSA units.

Issues Related to the Use of Portables

Some controversies have always surrounded the use of portable school buildings. With the advent of class size reduction — and the proliferation of portable classrooms of every description on school sites throughout the state — those controversies have heated up. To some extent, the concerns focus on the individual classroom units installed for temporary use rather than the more sophisticated and higher quality installation of "pre-fabricated buildings" meant to provide permanent or semi-permanent space. Some concerns are related to local district actions that have at times violated state regulations and some questions revolve specifically around DOH units. A growing issue regards possible negative effects on the school climate and playground space when districts add additional portables onto an existing school site.

Abuses of DSA Regulations

Experts agree that the nature of the site and the quality of the installation are the most important factors in ensuring earthquake safety. Both are now subject to rather strict DSA control, but that has not always been the case. There is also some question regarding the extent to which school districts follow DSA requirements.

In its 1992 report on school facilities, *No Room For Johnny*, the Little Hoover Commission quotes school experts who claim that many portable classrooms have been placed on foundations that were not approved by the DSA. This included buildings that were moved without DSA oversight, as well as old DOH units. This raises the worry that many portables may not meet Field Act standards.

Attempting to address this concern, the DSA has begun to require an inventory of all buildings on a school site before it will approve any new construction. When the DSA becomes aware of a non-conforming DOH unit or an uncertified DSA unit, it notifies the local school board and holds up the new project until the violation is taken care of.

DOH Portables — a Question of Money

When it comes to single-classroom DOH units, as well as some DSA units, low initial cost and fast installation are the advantages. A major trade-off is aesthetics. These units look temporary and generally stand out from other buildings on a school site. In addition, maintenance

costs can become a problem if they are kept in service over prolonged periods.

Some critics of DOH structures voice concern that the units are not manufactured under the Field Act process. Most experts, however, say that with the completion of minimal facility upgrades they have virtually no concern about the units' safety. Those upgrades include properly anchoring the unit to a DSA-approved foundation and securing the light fixtures according to specific guidelines.

There is general recognition that not all existing DOH units at schools are "legal," but no agency has the power to enforce the rules directly. However, local school board members can be held liable for violations should an injury occur.

While a state-sponsored task force studied the cost and safety differences between the Field Act and the Uniform Building Code for permanent construction, no comparable research on portable buildings has been conducted.

According to Bill Van Gundy, former director of the Office for Public School Construction, "no one has challenged the [structural] integrity of DOH units since new standards were created in 1976. What people challenge is the way they are sited and how they are affixed to foundations."

Some argue that schools should be allowed to use DOH units, particularly with good DSA oversight of their upgrading and installation. For one thing, they say, the availability of DOH units provides price competition that helps keep down the cost of DSA units. In fact, some observers say price is sometimes the only difference and some manufacturers can and do put both DSA and DOH certifications on the same unit.

"School districts pay for the perceived quality of a DSA certification," said Van Gundy. He adds that the question of DOH and DSA is "a very big dollars and cents issue. DSA-only manufacturers are pushing to maintain the perception of superiority. Some manufacturers who build both want to keep the DSA mystique because they get more for the units. For most DOH manufacturers, school business is just icing on the cake, the bulk of their market is not schools."

Legislation passed in 1995 (SB 291) and in 1997 (SB 708) prohibits school districts from bringing additional DOH units onto their sites as permanent classrooms. They may only lease them for temporary use, up to 18 months. The long-term intent of this legislation appears to include phasing out the use of DOH units.

What Role Should Portables Play in the Mix?

"Portable classrooms are already an accepted and necessary part of school facilities planning," stated the California Auditor General in a 1991 report. They are, the report said, "a practical alternative to permanent structures because of their versatility. The size and cost of portable classrooms allow school districts to build, replace, or refurbish school facilities incrementally, by adding only as much space as needed."

The question is to what extent portable school buildings should be used. Existing state law provides one answer by requiring a school site to include at least 30% portable classrooms in order to qualify for state facility funds. Some discussion has taken place in the Legislature about reducing this requirement or perhaps eliminating it completely.

Other answers come from individual school districts based on local conditions and the quality of the portables which have been installed. On older school sites, sometimes the best classrooms are the new portables which have plenty of electrical outlets, built-in storage space, and air conditioning. Some school district officials, who are satisfied with portable quality, say they favor the use of closer to 50% portables in areas with volatile population trends. When building new schools, some districts use portables to provide classroom space less expensively so they can put greater resources into shared-use areas.

TO LEARN MORE

For a comprehensive look at the current issues surrounding school facilities in California, order our full EdSource report, *California's School Facilities Predicament*. Call the EdSource office for ordering information.

For additional information about school portables:

Portable Classrooms in California School Districts, a report by the Auditor General of California, May 1991. Office of the Auditor General, 916/445-0255.

School Facilities Manufacturing Association, 1130 K Street, Suite 210, Sacramento, CA 95814, 916/441-3300 fax 916/441-3893.

California K-12 School Facilities and the Implementation of Class-Size Reduction, School Services of California, Inc., 1121 L Street, Suite 1060, Sacramento, CA 95814, 916/446-7517, fax 916/446-2011.

Many schools are in a balancing act between needing to expand their capacities, having limited funding with which to do so, and sometimes having little or no land available. The facility options are most limited in urban and older suburban areas where land is scarce and expensive. And when the state institutes a program like CSR with no warning, cash-strapped schools with little extra space make it work by adding classrooms however they can. Portables have often been the only way.

Problems arise when the new classrooms impinge too much on playground space. While state guidelines recommend that elementary schools have one acre of land for every 85 students, California schools vary dramatically in the amount of open space they provide. In urban areas such as San Diego, 85 students per acre is an impossible ideal. In many suburban and rural settings, putting that many students on a site would seem like unacceptable crowding.

Another problem can arise when several portables are added as a way to accommodate additional students. Sometimes districts subsequently find that other facilities such as restrooms, cafeterias, and office areas have become overloaded.

Critics also raise concerns about the proliferation of these sometimes unattractive buildings on school sites. They question whether portables represent a wise investment on the part of schools. Questions remain both about the durability of portable structures and the quality of the learning environment the less expensive ones provide. Skeptics also worry about "temporary" facilities that are never replaced. Would money be better spent on quality construction or upgraded portables that will provide a better educational environment for years to come? Are current state and local policies which encourage portables short-sighted? And if higher quality permanent construction is a better long-term option for schools, where will the funds come from to pay for it?

A Few Clear Conclusions

Portables would remain among the options school districts use to expand capacity, even if money were no object, because of the flexibility they provide. Past abuses of portables, in particular poor installations, have resulted in some unsafe conditions, some deteriorated facilities, and some frankly ugly school sites. They have also left many Californians skeptical about the quality of all portable classrooms despite the presence of many high quality installations.

Ultimately, the issue of portable classrooms cannot be divorced from the larger questions related to school facilities. How can school facility dollars be spent most wisely? How much are Californians willing to invest in quality buildings? Or conversely, what levels of inadequacy and inequity will they tolerate?

OTHER "HOT" ISSUES RELATED TO PORTABLES

"Chargeability" for the purpose of qualifying for state facility funds

Some leased buildings — including DSA units for the first five years and all DOH units — are not currently counted as available space when districts apply for state facility funds. Some contend that this can make an applicant district look more needy than it is, giving them preference in the queue for state money. Recommendations for changing this process were expected to be part of the legislative discussion in 1998.

Fire marshal regulations and other arguments about state versus local standards

The DSA and the state fire marshal say sprinkler systems are unnecessary in portable classrooms, and that their ruling preempts sometimes stricter local fire codes. Local fire marshals are beginning to assert local jurisdiction. Huge retrofit costs may face school districts if the local codes are enforced. This issue mirrors a debate about dropping DSA oversight of portables and letting local codes prevail. School district and School Facilities Manufacturers Association representatives resist this idea, saying that statewide standardization produces significant cost savings.

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